

Monier Arch Bridges in Bendigo



Disaster at King's Bridge

Bendigo Bridges

Eight Monier arch bridges were built along the Bendigo Creek in 1901 to 1902 using a new material – reinforced concrete. Six are still in use today.

1. Oak Street Replaced
2. King's Bridge (Weeroona Avenue)
3. Booth Street
4. High Street
5. Wade Street
6. Abbott Street
7. Myrtle Street Replaced
8. Thistle Street



You'll find more information about Bendigo's arch bridges at the Booth Street site – or scan the QR code below



Engineering Heritage Marker placed on 9 August 2014



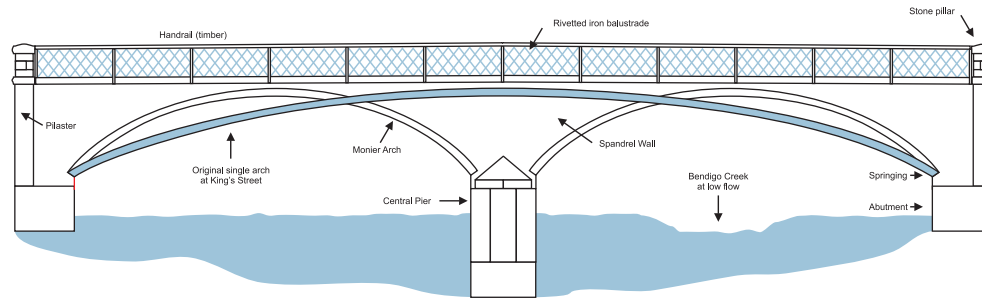
www.engineeringheritage.com.au

One Arch or Two?

Originally all eight bridges were designed as wide single arch structures. Following a shocking accident at the King's Bridge when a section of the arch collapsed during the load test – killing a contractor, Albert Boldt – the bridge was redesigned to have two spans and a central supporting pier, reducing stresses in the arches



Newspaper report: 15 May 1901

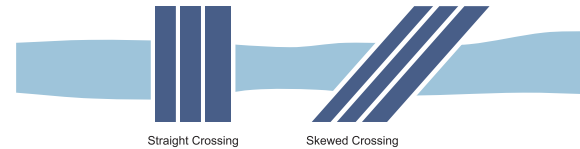


How did it happen?

The ability of a bridge to safely carry loads was tested by driving heavy vehicles over it. At King's Bridge, a steam roller and a traction engine were used for the test – together they weighed 30 tons which was far in excess of the load limit of 25 tons. During the test, one section collapsed. The traction engine fell into the creek bed, dragging Mr Boldt with it and crushing him. Monash & Anderson could not understand why the bridge had failed and engaged Professor William Kernot from Melbourne University to investigate. He concluded that the large angle of skew had produced four times the expected stress in the bridge. Even today, engineers would find it difficult to analyse such a highly skewed structure. Monash & Anderson replaced the bridge at their own expense.



From the Reinforced Concrete and Monier Pipe Construction Co Collection



The New King's Bridge

The two-span Monier arch bridge still carries traffic today. Alongside it is a new reinforced concrete arch bridge built in 2004. The road (now called Weeroona Avenue) was widened and a new road surface laid. However, from underneath, the two supporting structures can be clearly seen. The New King's Bridge was opened on 14 May 2004.



The Bendigo Creek

Sludge from the mines had been allowed to run into Bendigo Creek, filling up the creek bed which often caused floods. Engineers recommended clearing the sludge (which still contained some gold), realigning the creek, and protecting the banks with timber sheeting. Mines also had to better manage their tailings. After years of delay, work finally began on the creek in May 1899.